



PATENTS  
Attorney Docket No. DFS-044.01  
831.04

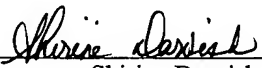
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
Wucherpennig et al.	)	
Application No:	)	
10/617,568	)	Art Unit: 1743
Filed: July 11, 2003	)	
	)	Confirmation No.: 3949
For: NOVEL COMPOSITIONS AND	)	
METHODS FOR THE	)	Examiner: Not yet known
GENERATION OF MHC CLASS II	)	
COMPOUNDS BY PEPTIDE	)	
EXCHANGE	)	

**CERTIFICATE OF MAILING/TRANSMISSION**

I hereby certify that the correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 8, 2005.

  
Shirine Darvish

Mail Stop Amendment  
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Sir:

**INFORMATION-DISCLOSURE STATEMENT**

**UNDER CFR 1.97(b)(3)**

Applicants hereby bring to the Examiner's attention the references listed on the accompanying form PTO-1449 in compliance with the requirement of 37 C.F.R. § § 1.56 and 1.97(b)(3). Pursuant to 37 C.F.R. § 1.98 (2)(i), Applicants have not enclosed copies of the cited U.S. patents or published applications. Applicants respectfully request that


the Examiner consider the listed documents and indicate that they were considered by making appropriate notations on the attached form.

Applicants have listed dates of publication on the attached PTO-1449 for the cited documents based on information presently available to the undersigned. However, the listed publication dates should not be construed that the information in the cited documents was actually published or otherwise publicly available on the date indicated.

This submission does not represent that a search has been made or that no better art exists. Nor does it constitute an admission that each or all of the listed documents are material or constitute "prior art." Further, if the Examiner applies any of the documents as prior art against any claim in the application and Applicants determine that the cited documents do not constitute "prior art" under United States law, Applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of such documents. Moreover, the Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

Under 37 C.F.R. § 1.97 (b)(3), this Information Disclosure Statement is being filed before the mailing date of the first Office Action on the merits; therefore, no fee is believed to be due in connection with this submission. However, the Commissioner is authorized to charge any deficiencies or credit any overpayment to our **Deposit Account, No. 06-1448, Reference DFS-044.01.**

Respectfully submitted,



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Form PTO-1449

**INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION**  
*(Use several sheets if necessary)*

Docket Number (Optional)

DFS-044.01

Application Number

10/617,568

Applicant

Wucherpennig et al.

Filing Date

July 11, 2003

Group Art Unit

1743

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	5,820,866	Kappler et al.			
	A2					
	A3					
	A4					

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	B1						
	B2						
	B3						

**OTHER DOCUMENTS***(Including Author, Title, Date, Pertinent Pages Etc.)*

C1	Altman et al., "Phenotypic Analysis of Antigen-Specific T Lymphocytes," Science, 274:94-96 (1996)
C2	Appel et al., "Kinetics of T-cell Receptor Binding by Bivalent HLA-DR-Peptide Complexes That Activate Antigen-specific Human T-cells," J. Biol. Chem., 275:312-321 (2000)
C3	Appel et al., "Anergy Induction by Dimeric TCR Ligands," J. Immunol., 166:5279-5285 (2001)
C4	Beckett et al., "A minimal peptide substrate in biotin holoenzyme synthetase-catalyzed biotinylation," Protein Sci., 8:921-929 (1999)
C5	Crawford et al., "Detection of Antigen-Specific T Cells with Multivalent Soluble Class II MHC Covalent Peptide Complexes," Immunity, 8:675-682 (1998)
C6	Eckels et al., "Human Helper T-Cell Clones That Recognize Different Influenza Hemagglutinin Determinants Are Restricted by Different HLA-D Region Epitopes," Immunogenetics, 19:409-423 (1984)
C7	Frayser et al., "Empty and Peptide-Loaded Class II Major Histocompatibility Complex Proteins Produced by Expression in Escherichia coli and Folding in Vitro," Protein Expr. Purif., 15:105-114 (1999)
C8	Garboczi et al., "HLA-A2-peptide complexes: Refolding and crystallation of molecules expressed in Escherichia coli and complexed with single antigenic peptides," Proc. Natl. Acad. Sci., USA, 89:3429-3433 (1992)
C9	Gauthier et al., "Expression and crystallization of the complex of HLA-DR2 (DRA, DRB1*1501) and an immunodominant peptide of human myelin basic protein," Proc. Natl. Acad. Sci., USA, 95:11828-11833 (1998)

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Form PTO-1449		Docket Number (Optional) DFS-044.01		Application Number 10/617,568	
<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		Applicant Wucherpfennig et al.			
		Filing Date July 11, 2003		Group Art Unit 1743	
	C10	Halder et al., "Isolation of Novel HLA-DR Restricted Potential Tumor-associated Antigens from the Melanoma Cell Line FM3 <sup>1</sup> ," Cancer Res., 57:3238-3244 (1997)			
	C11	Hammer et al., "Promiscuous and Allele-Specific Anchors in HLA-DR-Binding Peptides," Cell, 74:197-203 (1993)			
	C12	Hausmann et al., "pH-dependent Peptide Binding Properties of the Type I Diabetes-associated I-A <sup>B7</sup> Molecule: Rapid Release of CLIP at an Endosomal pH," J. Exp. Med., 189:1723-1733 (1999)			
	C13	Jensen et al., "Long-lived Complexes between Peptide and Class II Major Histocompatibility Complex Are Formed at Low pH with No Requirement for pH Neutralization," J. Exp. Med., 176:793-798 (1992)			
	C14	Kalandadze et al., "Expression of Recombinant HLA-DR2 Molecules," J. Biol. Chem., 271:20156-20162 (1996)			
	C15	Kozono et al., Production of soluble MHC class II proteins with covalently bound single peptides," Nature, 369:151-154 (1994)			
	C16	Krogsgaard et al., "Visualization of Myelin Basic Protein (MBP) T Cell Epitopes in Multiple Sclerosis Lesions using a Monoclonal Antibody Specific for the Human Histocompatibility Leukocyte Antigen (HLA)-DR2-MBP 85-99 Complex," J. Exp. Med. 191(8):1395-1412			
	C17	Kwok et al., "HLA-DQ Tetramers Identify Epitope-Specific T Cells in Peripheral Blood of Herpes Simplex Virus Type 2-Infected Individuals: Direct Detection of Immunodominant Antigen-Responsive Cells <sup>1</sup> ," J. Immuno., 164:4244-4249 (2000)			
	C18	Lanzavecchia et al., "Irreversible association of peptides with class II MHC molecules in living cells," Nature, 357:249-252 (1992)			
	C19	Lee et al., "Structure of a human insulin peptide-HLA-DQ8 complex and susceptibility to type I diabetes," Nat. Immunol., 2:501-507 (2001)			
	C20	Malcherek et al., "Supermotifs Enable Natural Invariant Chain-derived Peptides to Interact with Many Major Histocompatibility Complex-Class II Molecules," J. Exp. Med., 181:527-536 (1995)			
	C21	Matsui et al., "Kinetics of T-cell receptor binding to peptide/I-E <sup>k</sup> complexes: Correlation of the dissociation rate with T-cell responsiveness," Proc. Natl. Acad. Sci., USA, 91:12862-12866 (1994)			
	C22	Meyer et al., "Direct enumeration of Borrelia-reactive CD4 T Cells ex vivo by using MHC class II tetramers," Proc. Natl. Acad. Sci., USA, 97:11433-11438 (2000)			
	C23	Murali-Krishna et al., "Counting Antigen-Specific CD8 T Cells: A Reevaluation of Bystander Activation during Viral Infection," Immunity, 8:177-187 (1998)			
	C24	Novak et al., "MHC class II tetramers identify peptide-specific human CD4 <sup>+</sup> T cells proliferating in response to influenza A antigen," J. Clin. Invest., 104:R63-67 (1999)			
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<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		DFS-044.01	10/617,568
		Applicant	
		Wuchterpfennig et al.	
		Filing Date	Group Art Unit
		July 11, 2003	1743
	C25	Riberdy et al., "HLA-DR molecules from an antigen-processing mutant cell line are associated with invariant chain peptides," Nature, 360:474-477 (1992)	
	C26	Rosenberg et al., "Vigorous HIV-1-Specific CD4 <sup>+</sup> T Cell Responses Associated with Control of Viremia," Science, 278:1447-1450 (1997)	
	C27	Savage et al., "A Kinetic Basis For T Cell Receptor Repertoire Selection during an Immune Response," Immunity, 10:485-492 (1999)	
	C28	Scott et al., "Role of Chain Pairing for the Production of Functional Soluble IA Major Histocompatibility Complex Class II Molecules," J. Exp. Med., 183:2087-2095 (1996)	
	C29	Stern, L.J. and Wiley, D.C., "The Human Class II MHC Protein HLA-DR1 Assembles as Empty $\alpha\beta$ Heterodimers in the Absence of Antigenic Peptide," Cell, 68:465-477 1992)	
	C30	Valli et al., "Binding of Myelin Basic Protein Peptides to Human Histocompatibility Leukocyte Antigen Class II Molecules and Their Recognition by T Cells from Multiple Sclerosis Patients," J. Clin. Invest., 91:616-628 (1993)	
	C31	Vonderheide et al., "Equivalent Induction of Telomerase-specific Cytotoxic T Lymphocytes from Tumor-bearing Patients and Healthy Individuals," Cancer Res., 61:8366-8370 (2001)	
	C32	Wuchterpfennig et al., "Structural Requirements for Binding of an Immunodominant Myelin Basic Protein Peptide to DR2 Isotypes and for Its Recognition by Human T Cell Clones," J. Exp. Med., 179:279-290 (1994)	
	C33	Yu et al., "Binding of conserved islet peptides by human and murine MHC class II molecules associated with susceptibility to type I diabetes," Eur. J. Immunol., 30:2497-2506 (2000)	
	C34	Zarutskie et al., "The kinetic basis of peptide exchange catalysis by HLA-DM," PNAS, 98(22):12450-12455	
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